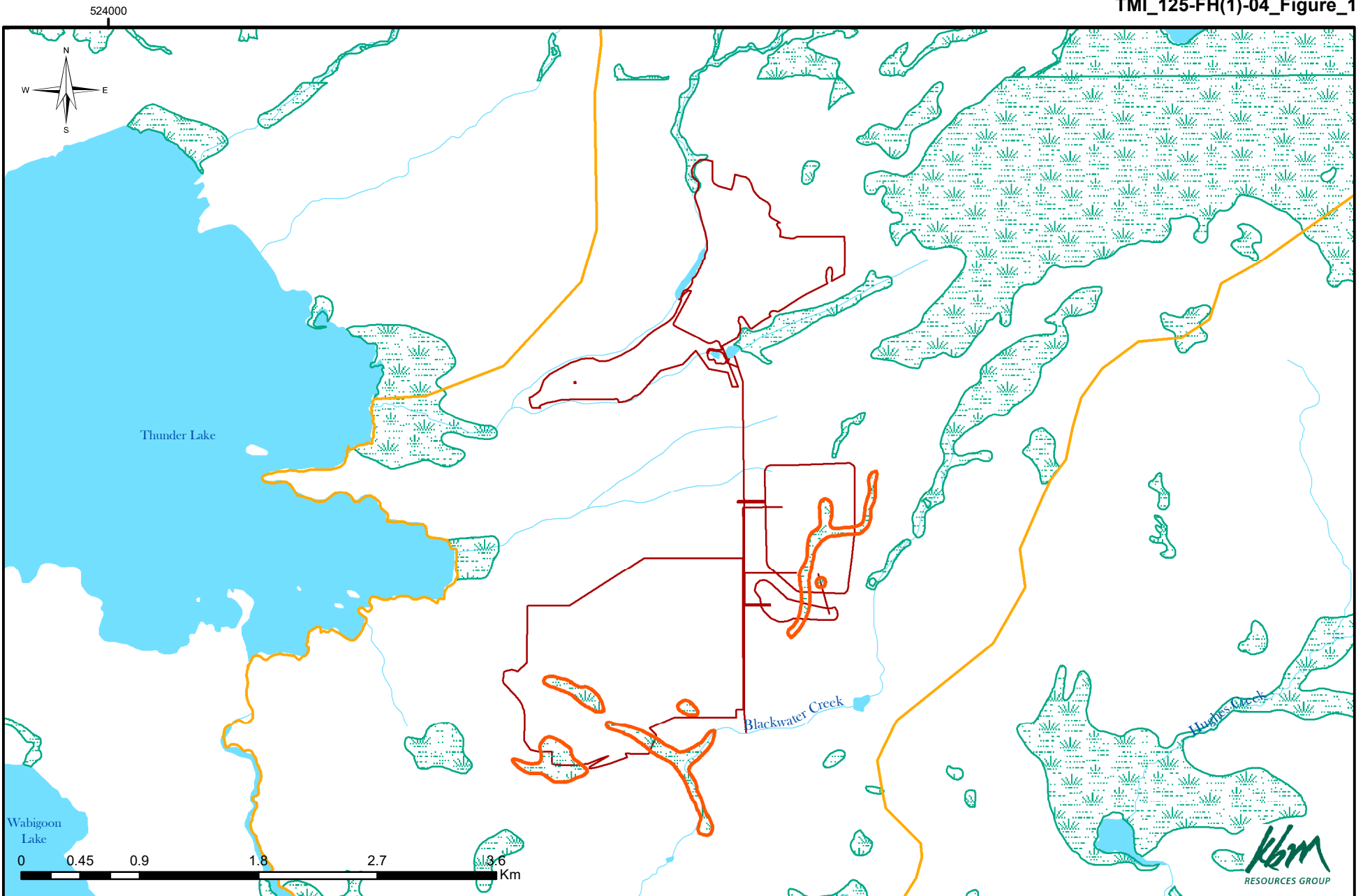


**Legend**







- Local Study Area
- Waterbody
- Development Footprint
- Stream
- Wetland

**Footprint  
Water Overview**

1:40,000  
 Projection: NAD 1983 UTM Zone 15N  
 Date created: 2017-01-31



**Legend**

-  Local Study Area
-  Development Footprint
-  Stream
-  Wetlands to be dewatered
-  Wetland
-  Waterbody

**Footprint  
Water Overview**

1:40,000  
 Projection: NAD 1983 UTM Zone 15N  
 Date created: 2017-01-31























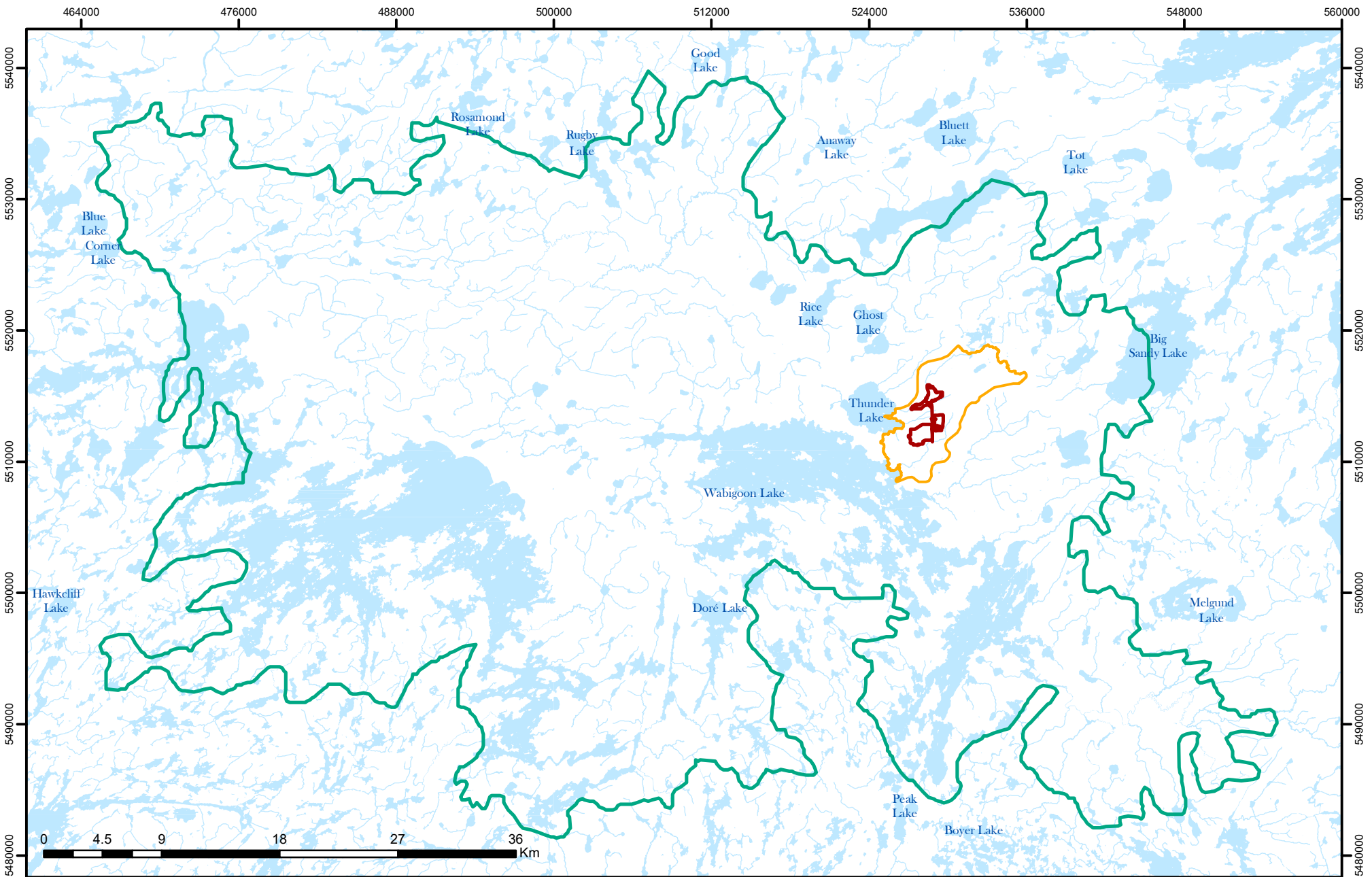








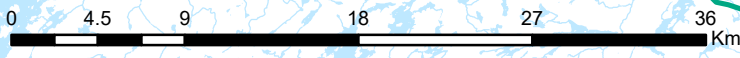







5540000  
5530000  
5520000  
5510000  
5500000  
5490000  
5480000

5540000  
5530000  
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5510000  
5500000  
5490000  
5480000

464000 476000 488000 500000 512000 524000 536000 548000 560000



**Legend**

-  Development Footprint
-  Local Study Area
-  Regional Study Area



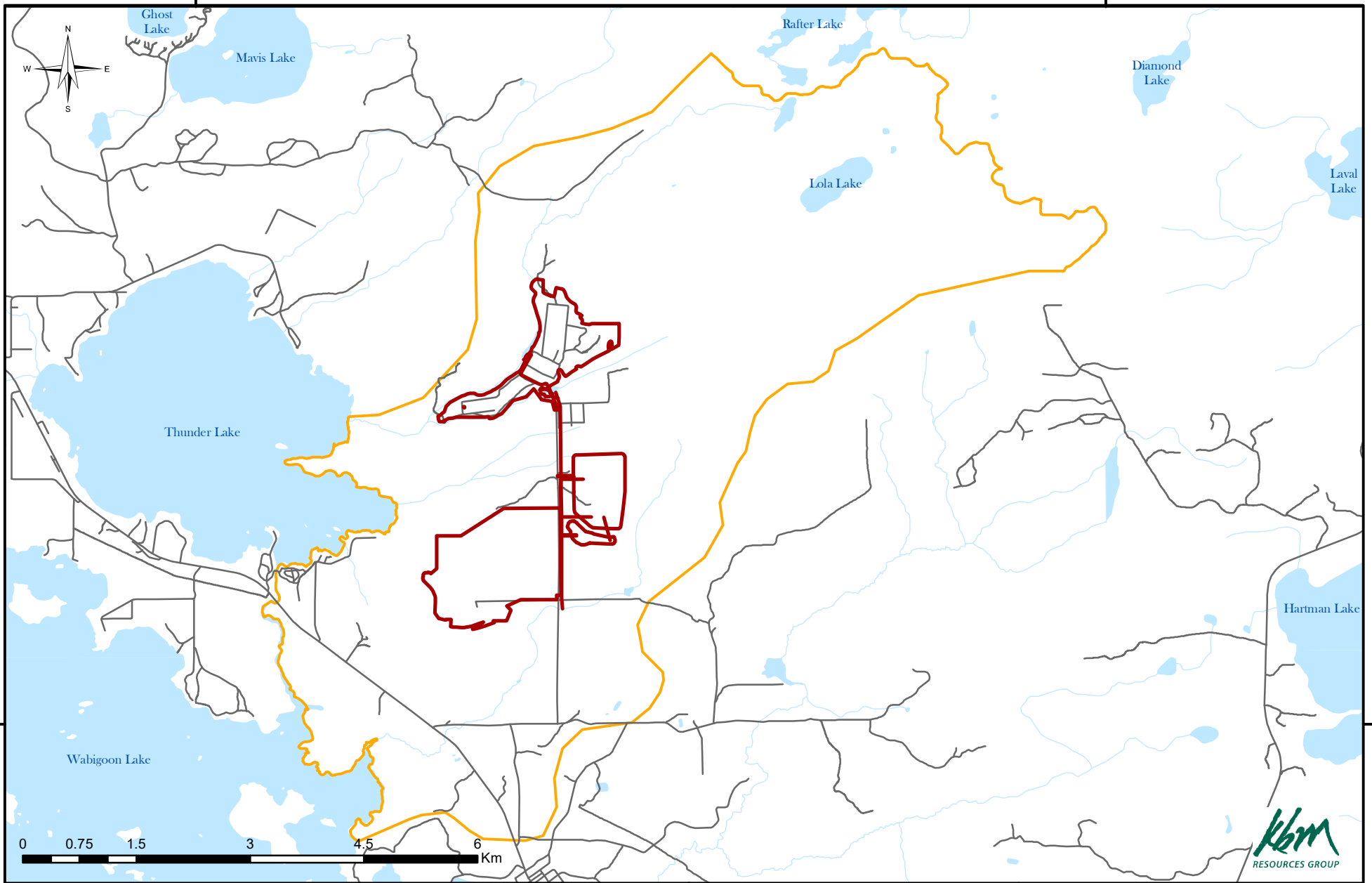
**Regional Area, Local Area and Project Footprint**

1:391,728  
Projection: NAD 1983 UTM Zone 15N  
Date created: 2016-12-06



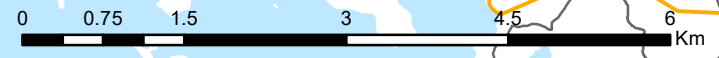
524000

536000






5510000

5510000



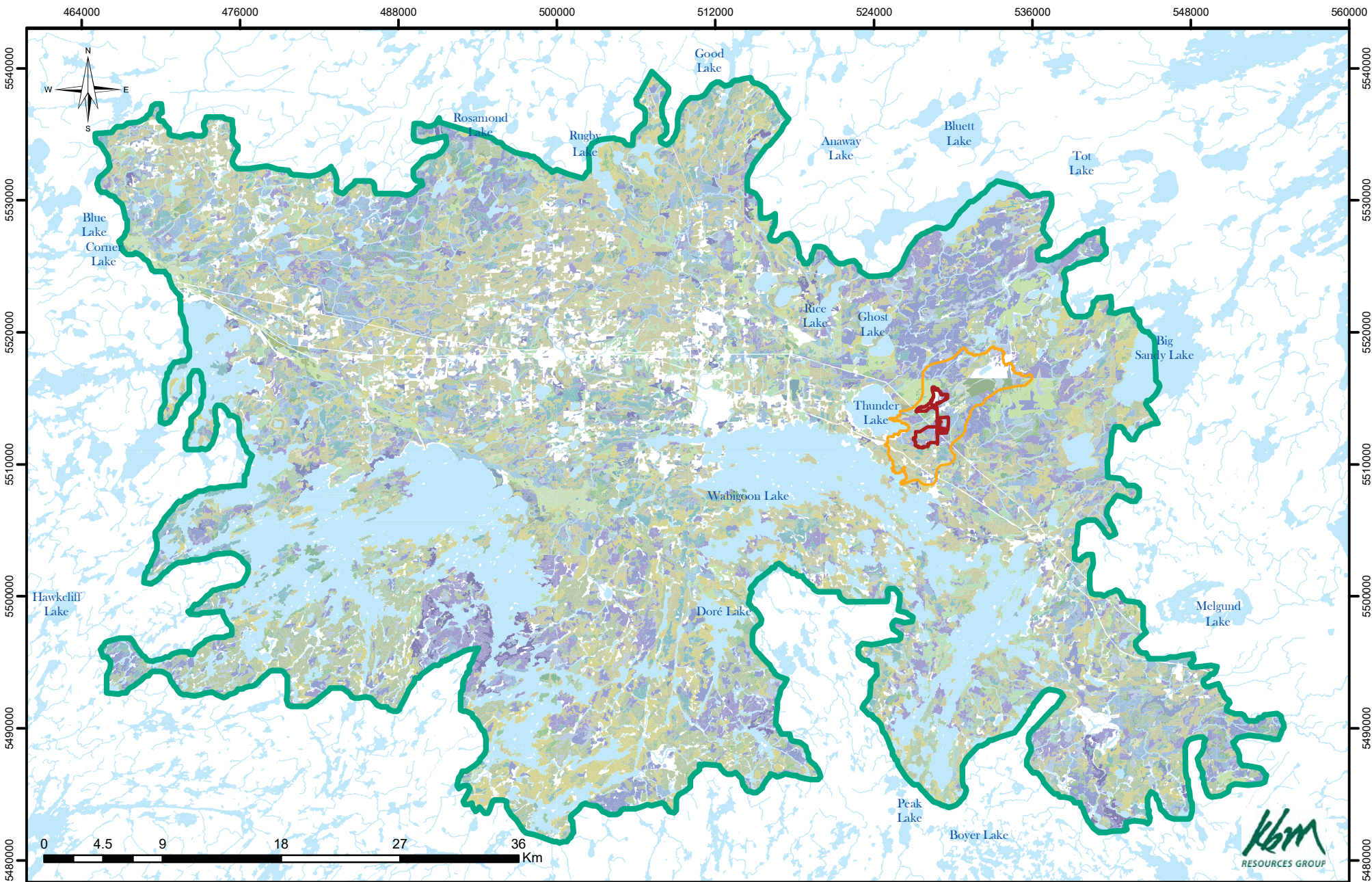
**Legend**

-  Road
-  Development Footprint
-  Local Study Area

**Local Study Area Overview**

1:70,000  
 Projection: NAD 1983 UTM Zone 15N  
 Date created: 2016-12-21





**Legend**

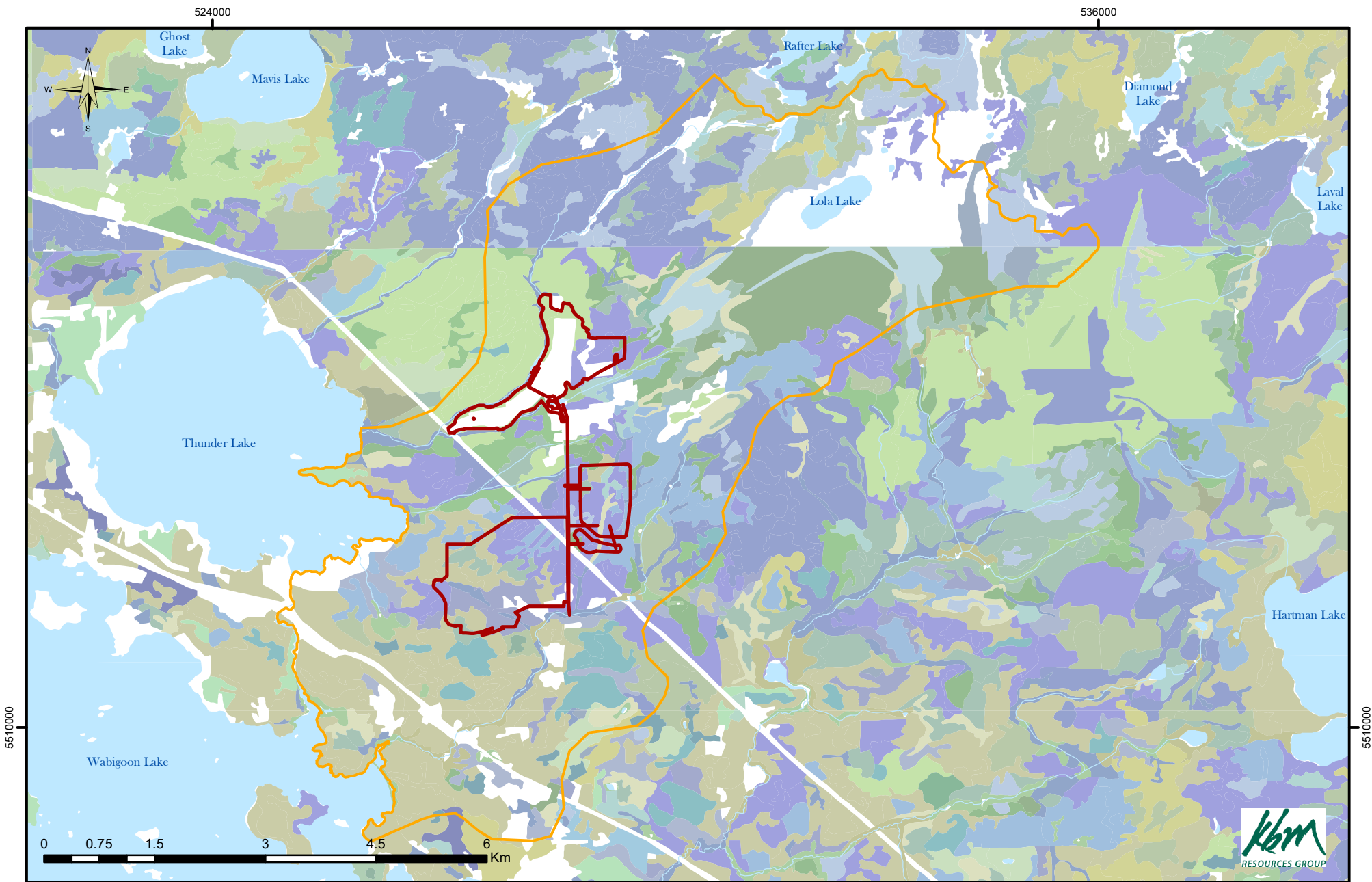
- Development Footprint
- Local Study Area
- Regional Study Area

ECOSITE	
1	14
2	15
3	16
4	17
5	18
6	19
7	20
8	21
9	22
10	23
11	24
12	25
13	26
14	27
15	28
16	29
17	30
18	31
19	32
20	33
21	34
22	35
23	36
24	37
25	38
26	39
27	40
28	41
29	42
30	43
31	44
32	45
33	46
34	47
35	48
36	49
37	50
38	51
39	52
40	53
41	54
42	55
43	56
44	57
45	58
46	59
47	60
48	61
49	62
50	63
51	64
52	65
53	66
54	67

**Ecosite Overview**

1:391,584  
 Projection: NAD 1983 UTM Zone 15N  
 Date created: 2016-12-06





**Legend**

Development Footprint	11	16	20	25	3	34	39	43	50	9
Local Study Area	12	17	21	26	30	35	4	44	56	
<b>ECOSITE</b>	13	18	22	27	31	36	40	45	6	
1	14	19	23	28	32	37	41	46	67	
	15	2	24	29	33	38	42	47	7	

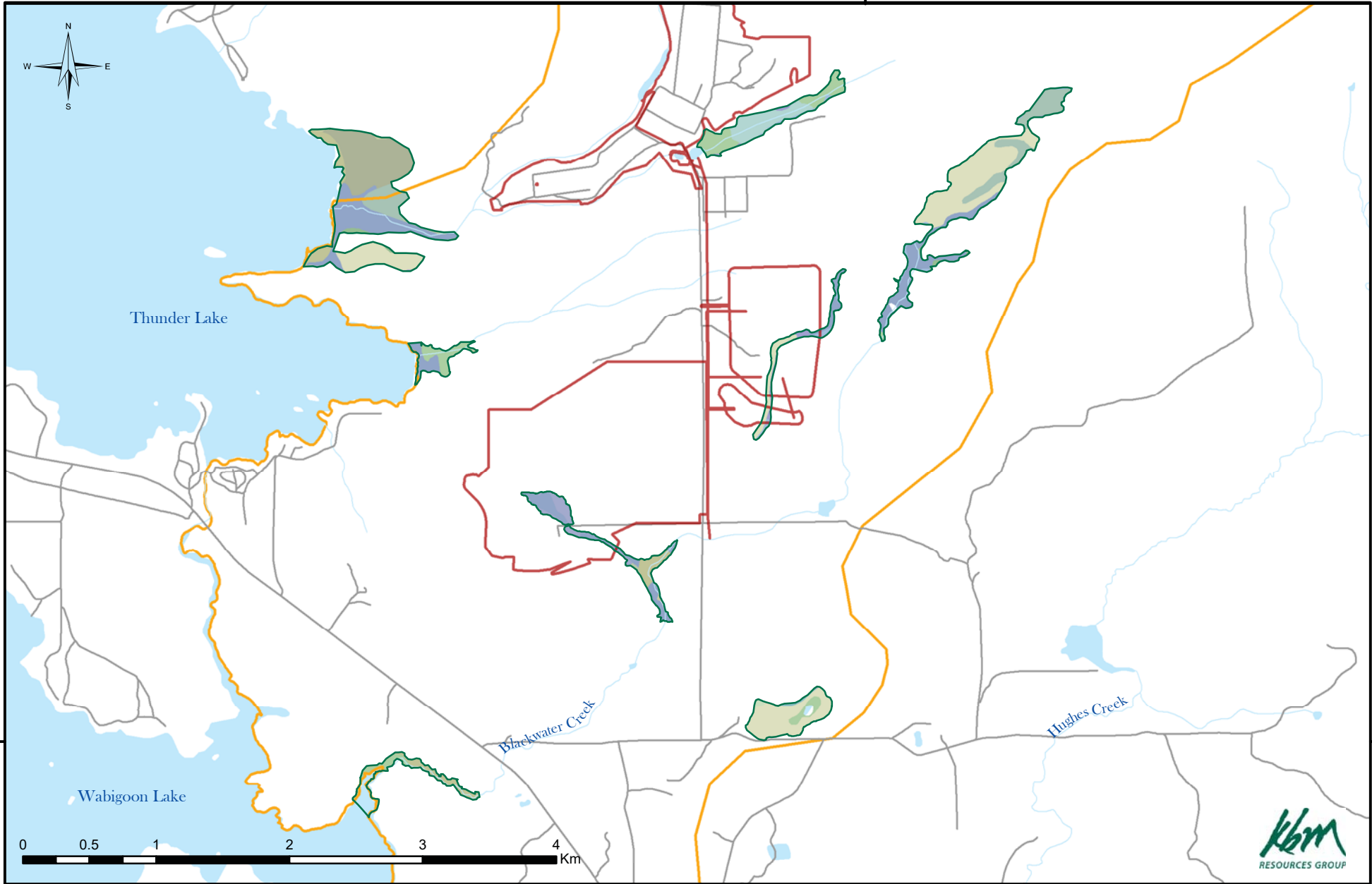
**Local Study Area  
Ecosite Overview**

1:70,000  
 Projection: NAD 1983 UTM Zone 15N  
 Date created: 2016-12-21





530000



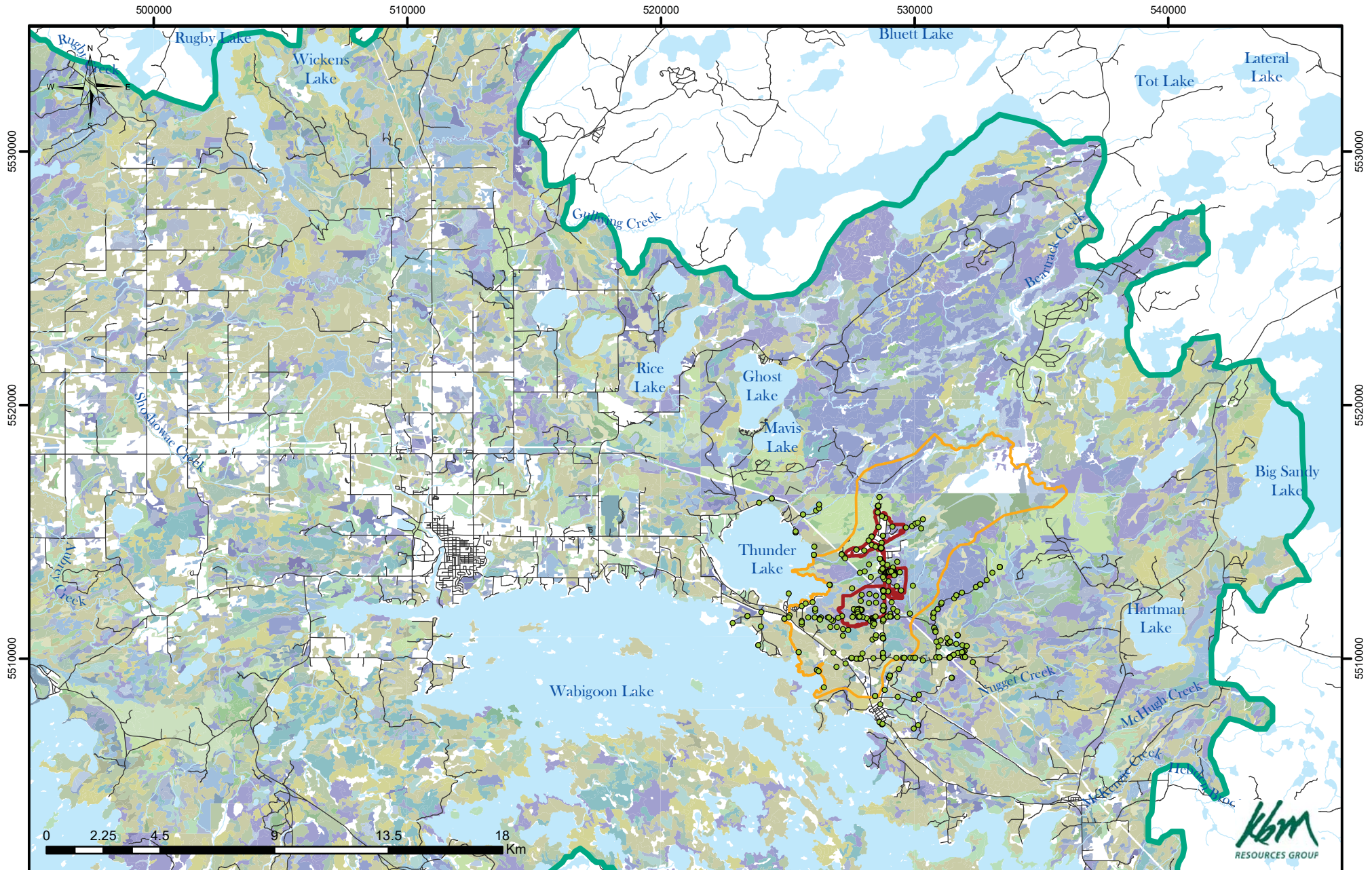
**Legend**

— Development Footprint	<b>ECOSITE</b>	20	26	33	38	46
— Local Study Area	12	21	29	35	40	
— Regional Study Area	14	22	31	36	44	
— Surveyed Wetlands	19	25	32	37	45	

**Surveyed Wetlands by Ecosite**

1:40,000  
 Projection: NAD 1983 UTM Zone 15N  
 Date created: 2016-12-09





**Legend**

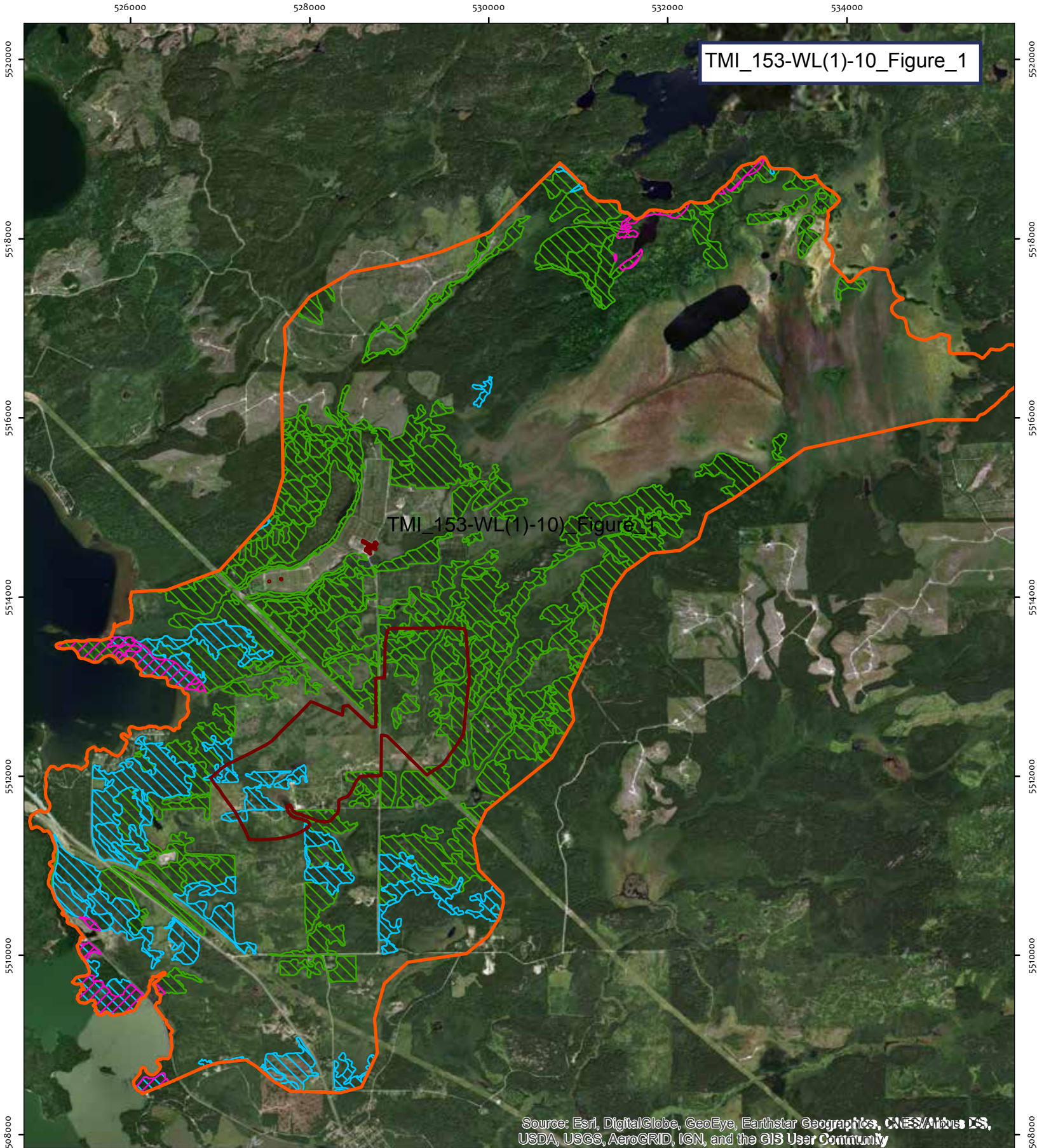
- Survey Points
- Development Footprint
- ▭ Local Study Area
- ▭ Regional Study Area

ECOSITE	
1	14
11	15
12	16
13	17
18	19
2	20
21	22
23	24
25	26
27	28
29	30
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53	54
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57	58
59	60
61	62
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65	66
67	68
69	70
71	72
73	74
75	76
77	78
79	80
81	82
83	84
85	86
87	88
89	90
91	92
93	94
95	96
97	98
99	100

**Ecosite Overview with Survey Points**

1:202,319  
 Projection: NAD 1983 UTM Zone 15N  
 Date created: 2016-12-09





TMI\_153-WL(1)-10\_Figure\_1

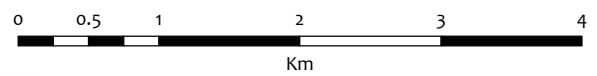
TMI\_153-WL(1)-10\_Figure\_1

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

- LSA
- Project Footprint
- Potential Bald Eagle Habitat
- Potential Eastern Wood-Pewee/Wood Thrush Habitat
- Potential Olive-sided Flycatcher Habitat

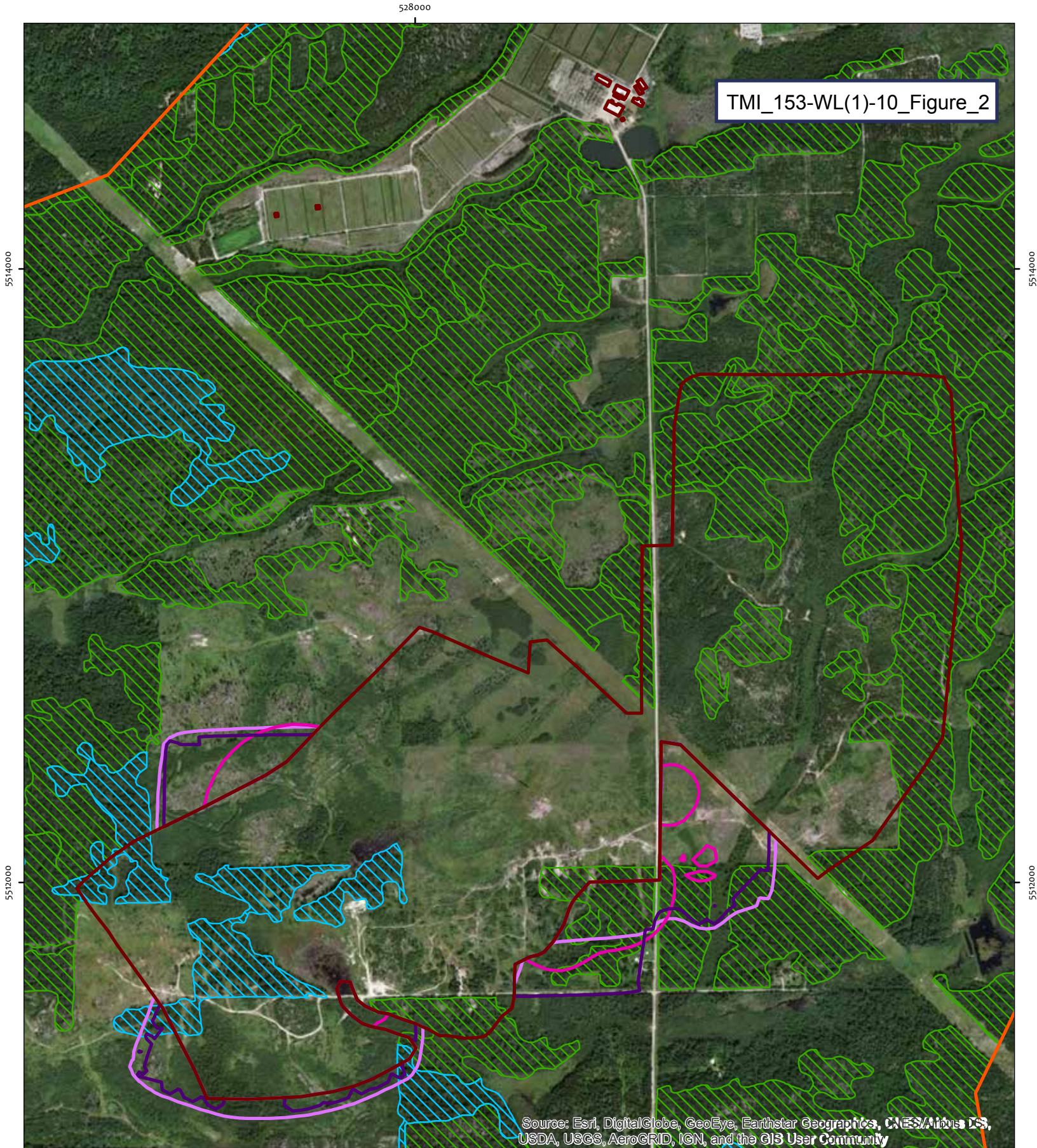
**Figure 1. Potential Mature Forest SAR Habitat Within the LSA**










1:53,639  
 Projection: NAD 1983 UTM Zone 15N  
 Date created: 2017-08-29



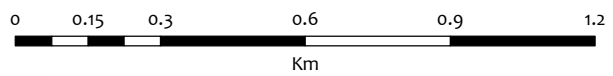




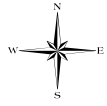
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-  LSA
-  Project Footprint
-  Noise - Construction
-  Noise - Operation
-  Noise - Closure
-  Potential Eastern Wood-Pewee/Wood Thrush Habitat
-  Potential Olive-sided Flycatcher Habitat

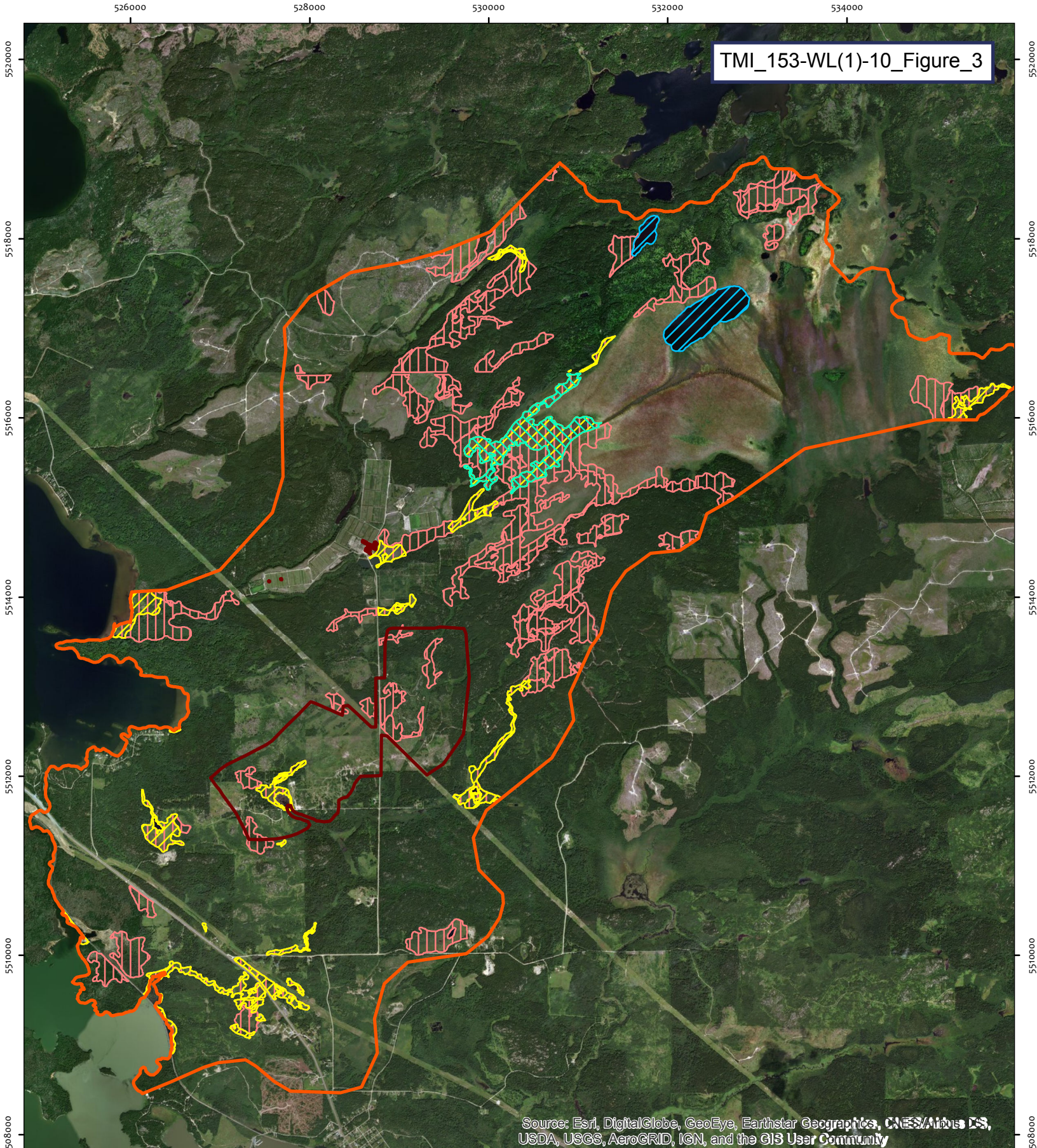
**Figure 2. Potential Mature Forest SAR Habitat Within the Project Footprint**



1:15,649  
Projection: NAD 1983 UTM Zone 15N  
Date created: 2017-08-29





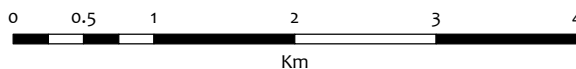


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

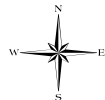
Legend

- LSA
- Project Footprint
- Potential Black Tern Habitat
- Potential Yellow Rail/Least Bittern Habitat
- Potential Rusty Blackbird Habitat
- Potential American White Pelican Habitat

Figure 3. Potential Wetland and Aquatic SAR Habitat Within the LSA



1:53,639  
 Projection: NAD 1983 UTM Zone 15N  
 Date created: 2017-08-29





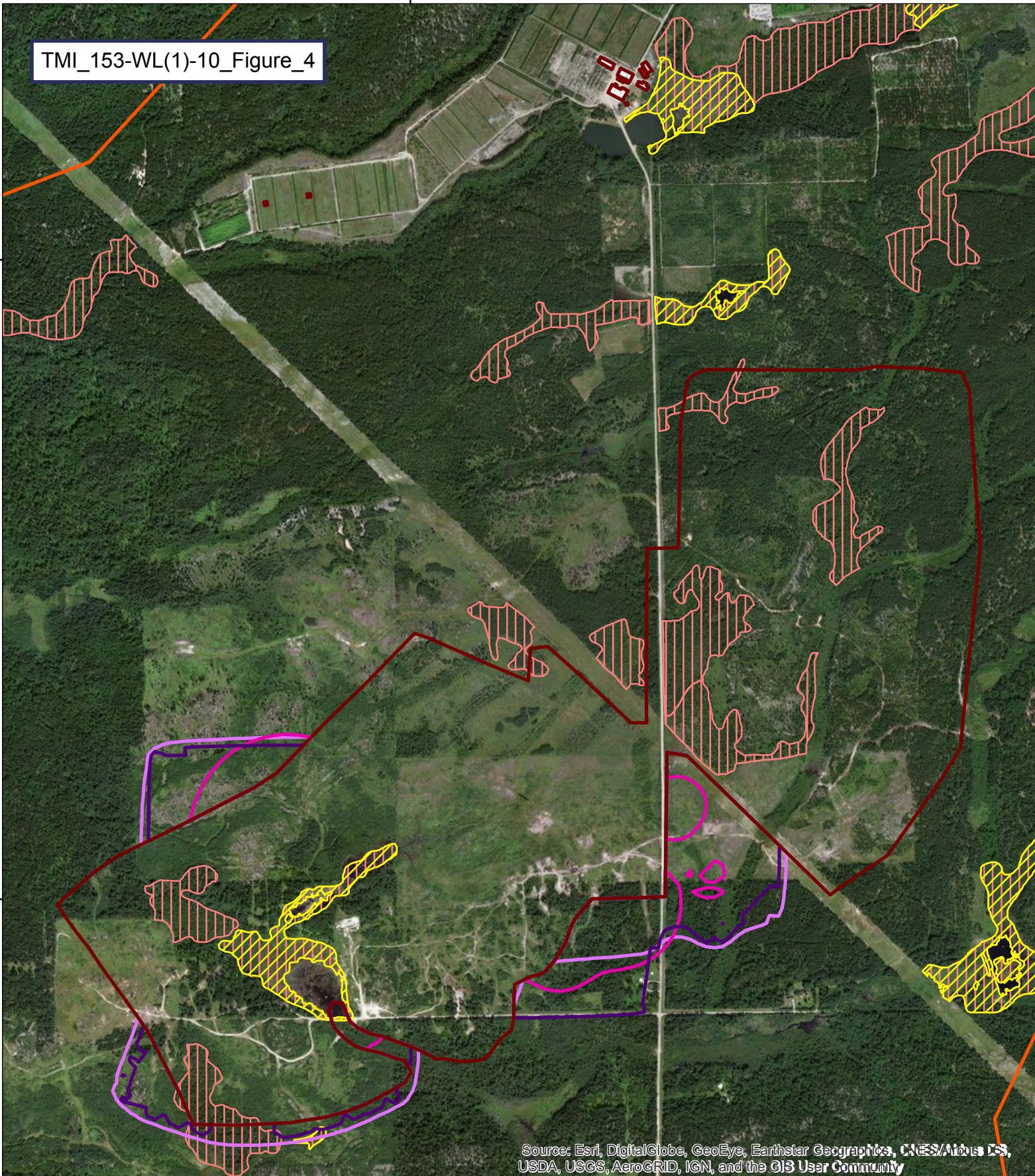
5514000

528000

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5512000

5512000



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Figure 4. Potential Wetland and Aquatic SAR Habitat Within the Project Footprint**

- ▭ LSA
- ▭ Project Footprint
- ▭ Noise - Construction
- ▭ Noise - Operation
- ▭ Noise - Closure
- ▨ Potential Yellow Rail/Least Bittern Habitat
- ▨ Potential Rusty Blackbird Habitat

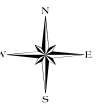
0 0.15 0.3 0.6 0.9 1.2



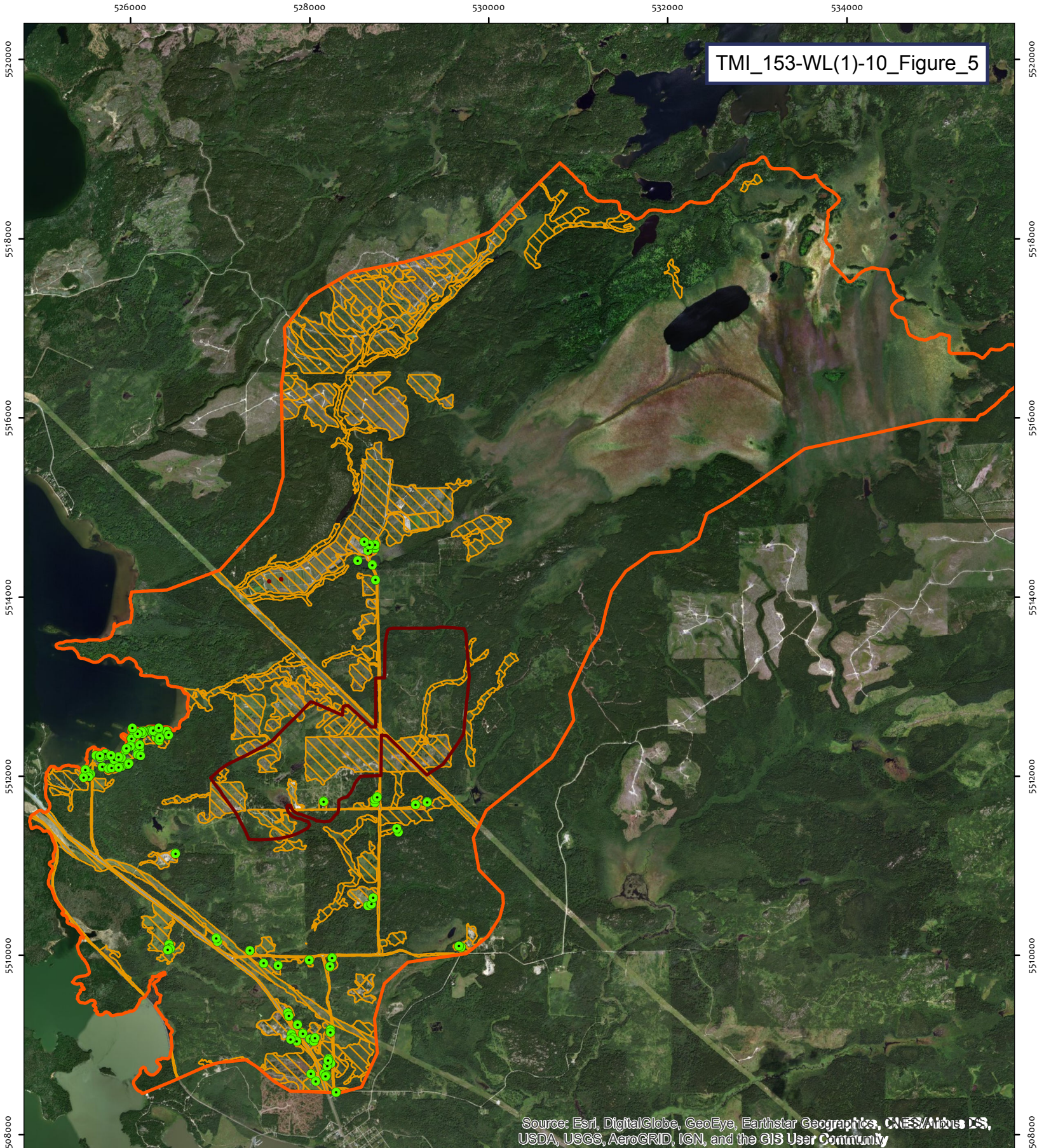
Km



1:15,649  
 Projection: NAD 1983 UTM Zone 15N  
 Date created: 2017-08-29





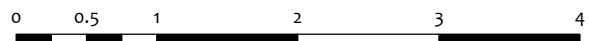


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Figure 5. Potential Open and Human-Associated SAR Habitat Within the LSA**

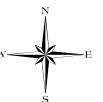
**Legend**

- ▭ LSA
- ▭ Project Footprint
- Potential Ground-Nesting Bird Habitat
- Human Structures (Potential Barn Swallow/Chimney Swift Habitat)

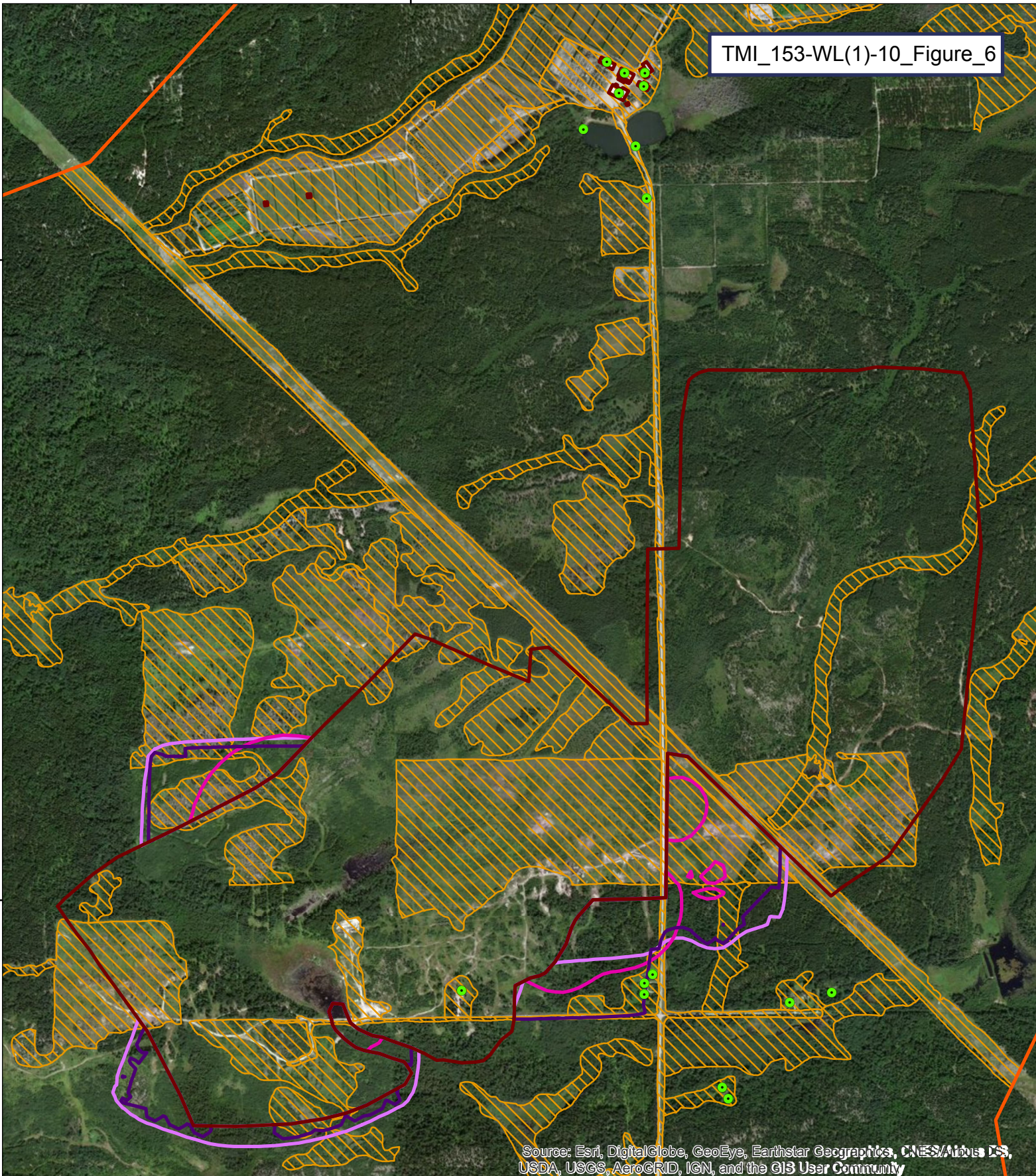


1:53,639

Projection: NAD 1983 UTM Zone 15N  
Date created: 2017-08-29



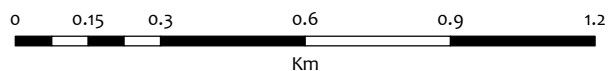




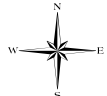
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Figure 6. Potential Open and Human-Associated SAR Habitat Within the Project Footprint**

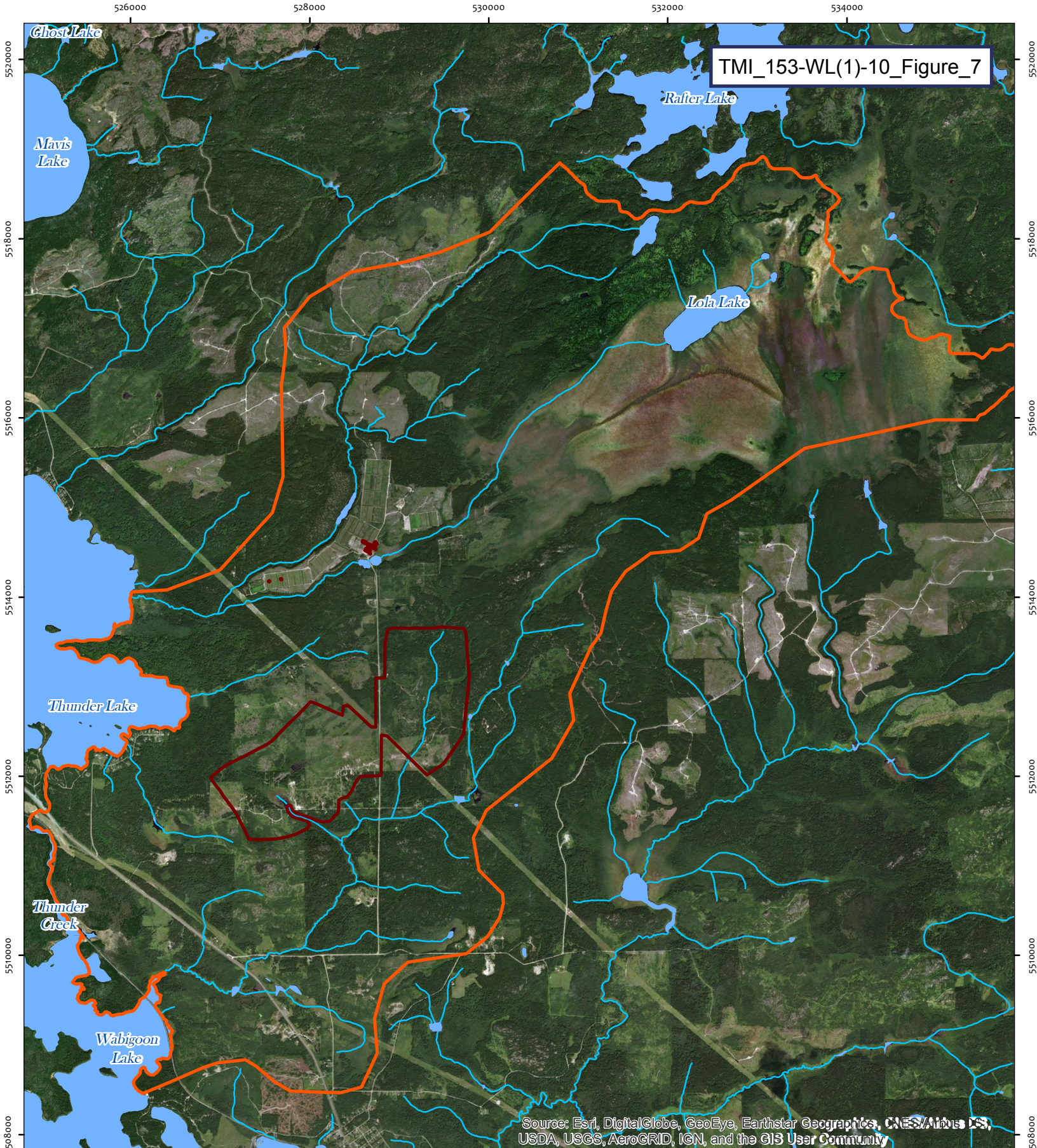
- ▭ LSA
- ▭ Project Footprint
- ▭ Noise - Construction
- ▭ Noise - Operation
- ▭ Noise - Closure
- ▭ Potential Ground-Nesting Bird Habitat
- Human Structures (Potential Barn Swallow/Chimney Swift Habitat)



1:15,649  
 Projection: NAD 1983 UTM Zone 15N  
 Date created: 2017-08-29







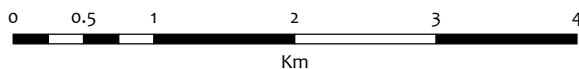
TMI\_153-WL(1)-10\_Figure\_7

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

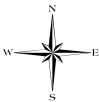
**Legend**

- ▭ LSA
- ▭ Project Footprint
- ▭ Waterbody
- ▭ Stream

**Figure 7. Potential Snapping Turtle Habitat Loss**



1:53,639  
 Projection: NAD 1983 UTM Zone 15N  
 Date created: 2017-08-24





528000

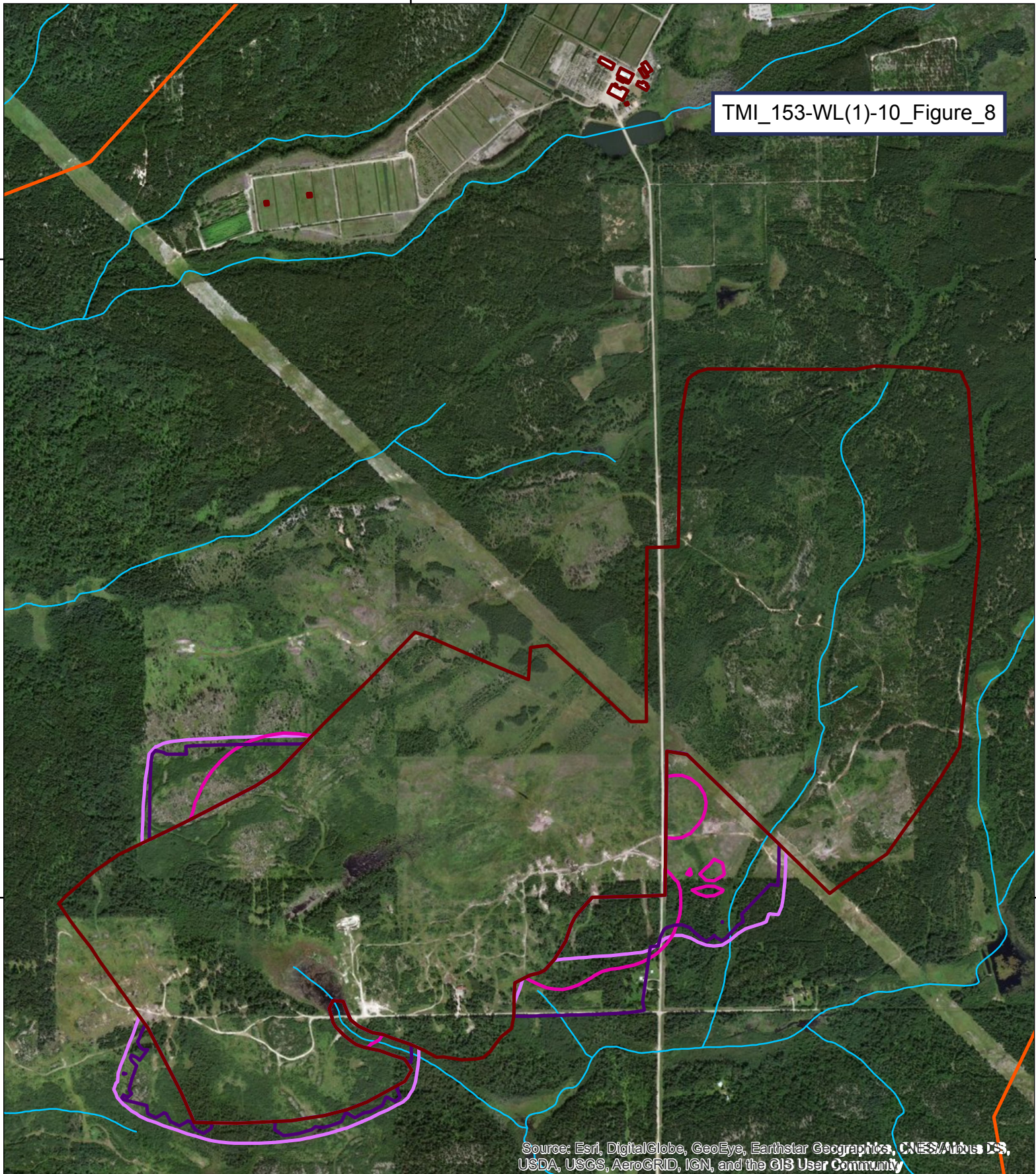
TMI\_153-WL(1)-10\_Figure\_8

5514000

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5512000

5512000



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

- LSA
- Project Footprint
- Noise - Construction
- Noise - Operation
- Noise - Closure
- Stream

**Figure 8. Potential Snapping Turtle Habitat Degradation**

0 0.15 0.3 0.6 0.9 1.2  
Km

**Kbrm**  
RESOURCES GROUP

1:15,660  
Projection: NAD 1983 UTM Zone 15N  
Date created: 2017-08-24



530000

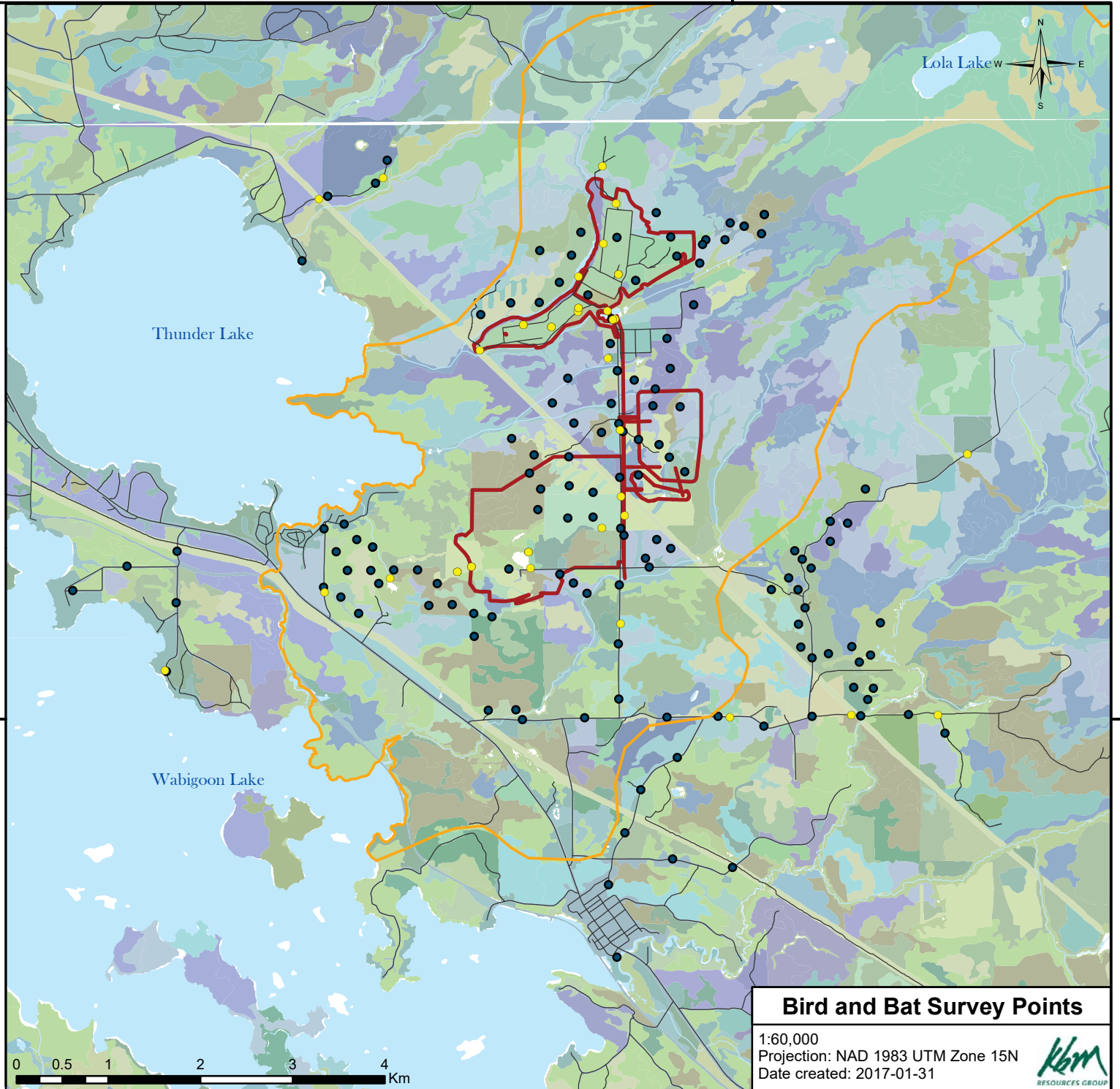
**Legend**

- Bat Recorder/Song Meter Location
- Point Count
- Development Footprint
- Local Study Area

**Ecosite**

- No Ecosite
- B007X D n
- B012TIVSn
- B012TIVSn
- B034TID n
- B034TID n
- B035TID n
- B040TID n
- B040TIM n
- B040TtM n
- B048TID n
- B049TID n
- B049TIM n
- B049TID n
- B049TtM n
- B049TtMDn
- B050TIM n
- B050TID n
- B050TtM n
- B050TIS n
- B051TtM n
- B052TIM n
- B052TID n
- B052TtM n
- B055TID n
- B055TIM n
- B055TID n
- B055TtM n
- B065TID n
- B065TID n
- B070TID n
- B070TID n
- B071TID n
- B085TID n
- B088TID n
- B093N D n
- B095S D n
- B096S D n
- B097TID n
- B098TID n
- B098TID n
- B098TtM n
- B099TID n

- B099TIM n
- B099TIDn
- B099TtD n
- B099TIM n
- B100TID n
- B101TIM n
- B101TID n
- B101TIM n
- B104TID n
- B104TIM n
- B104TID k
- B104TID n
- B104TtM n
- B112S D n
- B113TtD n
- B114TID n
- B114TID k
- B114TID n
- B116TID n
- B116TID n
- B119TID n
- B119TID n
- B120TID n
- B127TID n
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- B128TID n
- B129TID n
- B130TID n
- B135S D n
- B136TID n
- B136TID n
- B139N D n
- B139S D n
- B140S D n
- B141N D n
- B142N n
- B144N n
- B146N n
- B146S n
- B191X
- B197X
- B222TID n
- U997
- U998
- U999

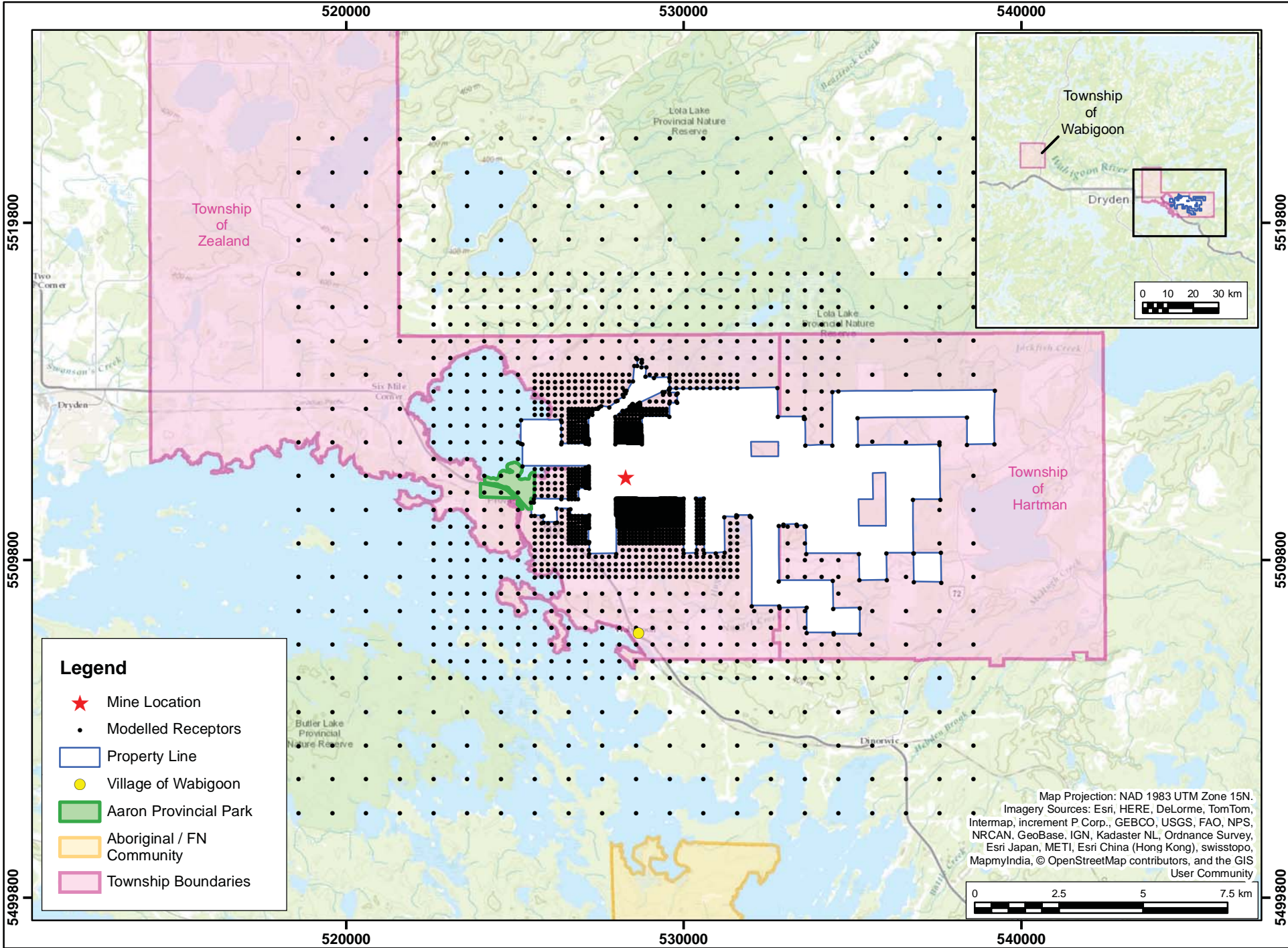


**Bird and Bat Survey Points**

1:60,000  
 Projection: NAD 1983 UTM Zone 15N  
 Date created: 2017-01-31

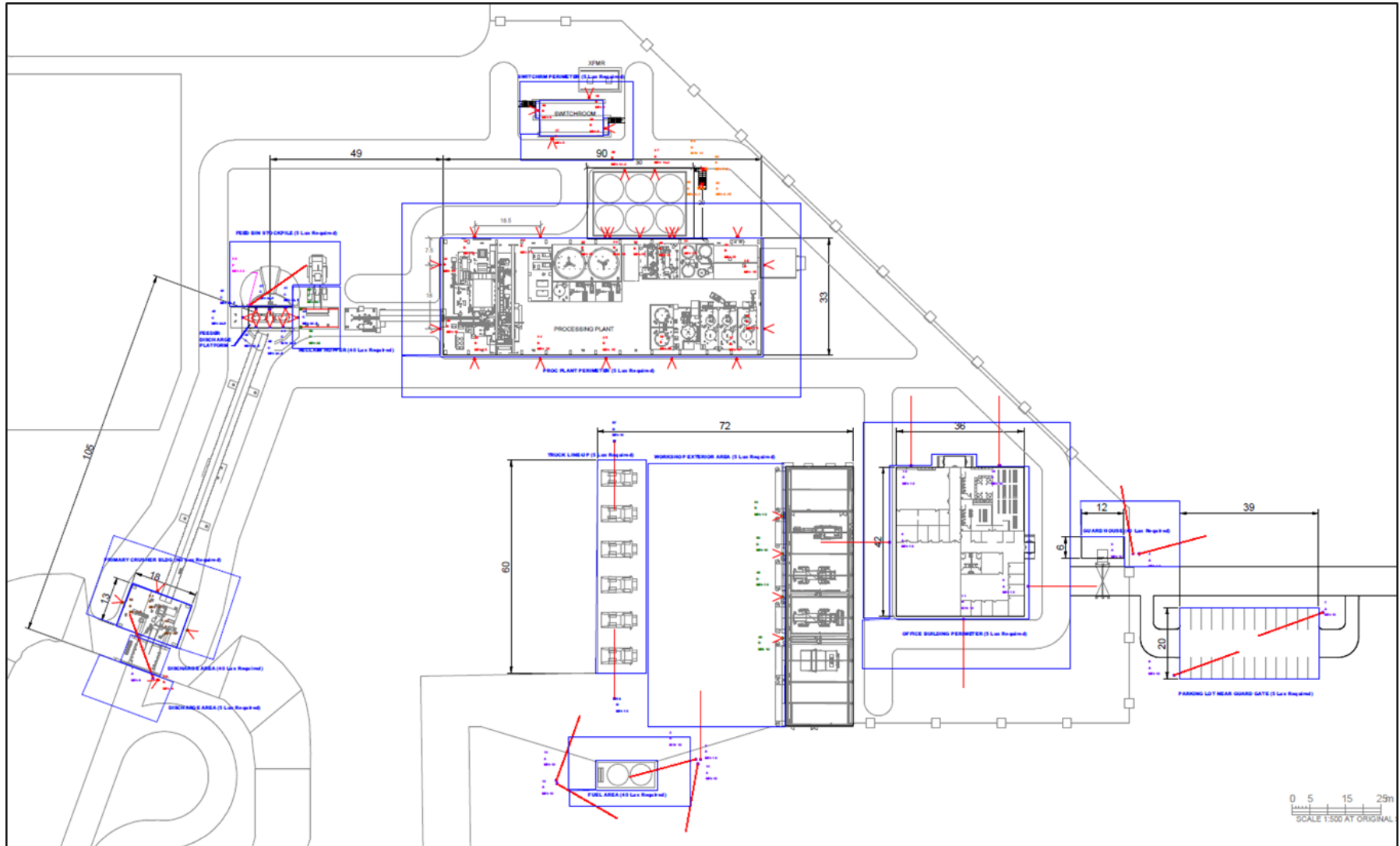






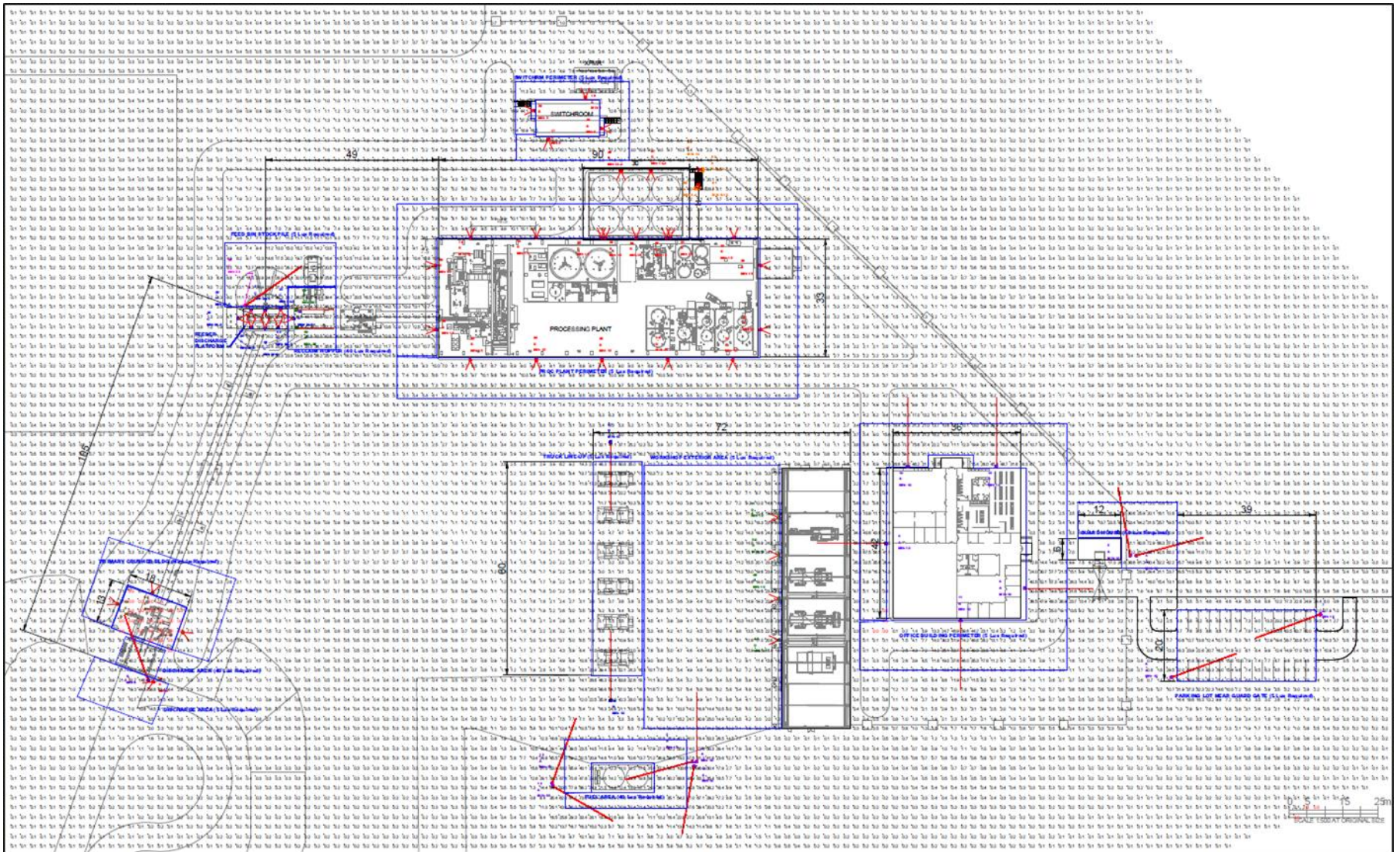


TMI\_178-AE(1)-16\_Figure\_1 - Process Plant and Mine Infrastructure Lighting Plan



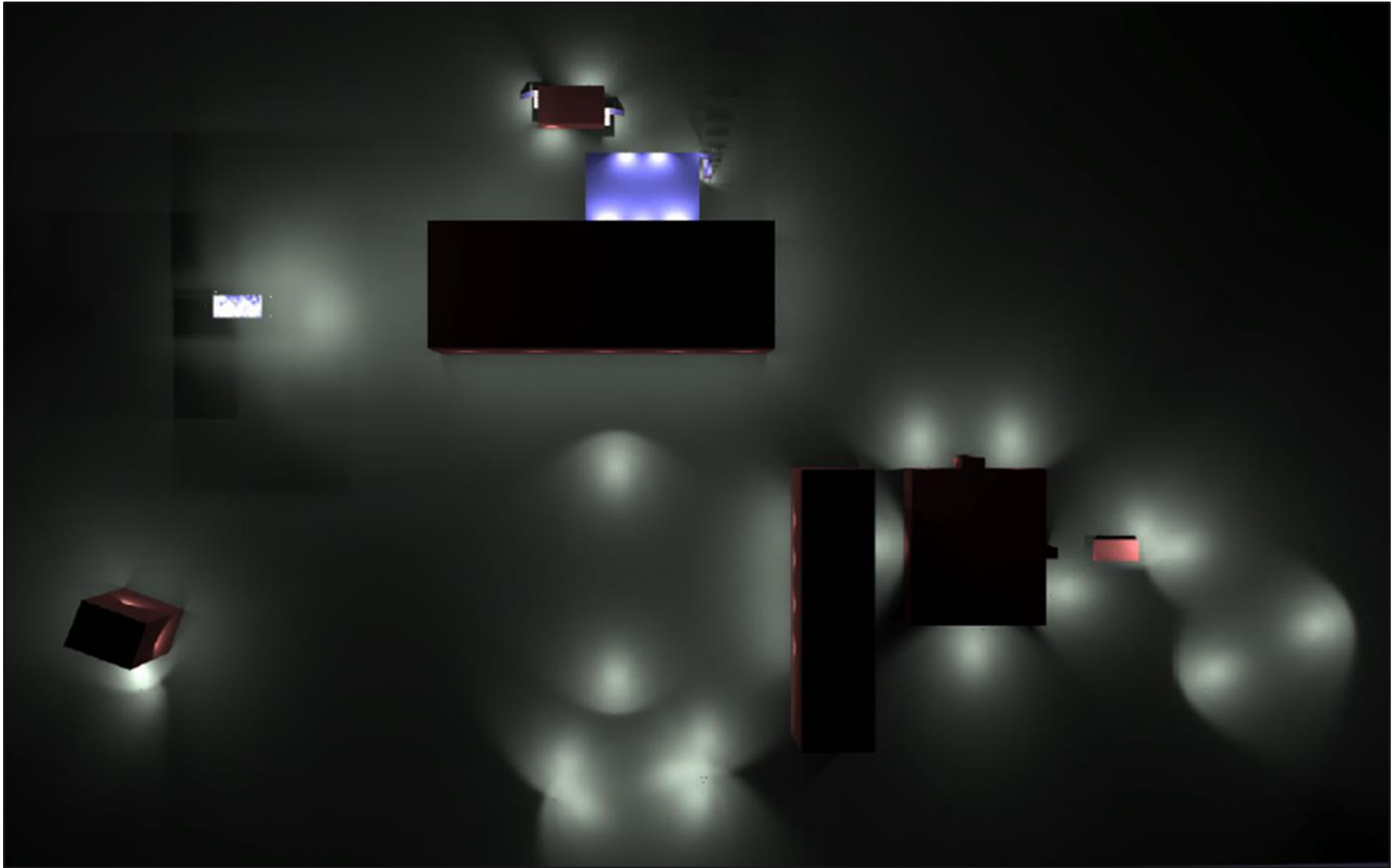


TMI\_178-AE(1)\_Figure\_2 - Process Plant and Infrastructure LUX Plot

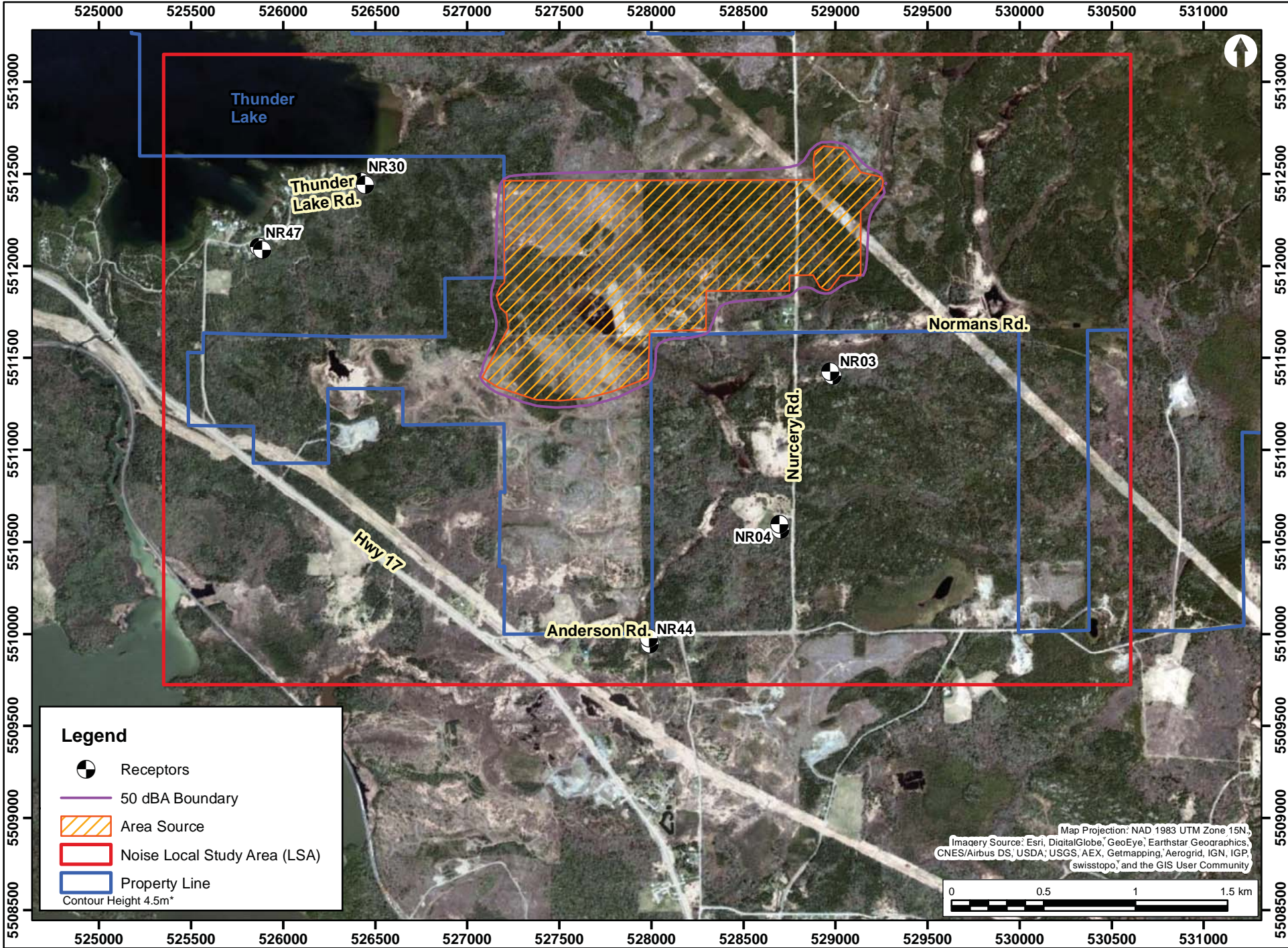









TMI\_178-AE(1)-16\_Figure\_3 - Process Plant and Infrastructure Rendered Plan View







**Legend**

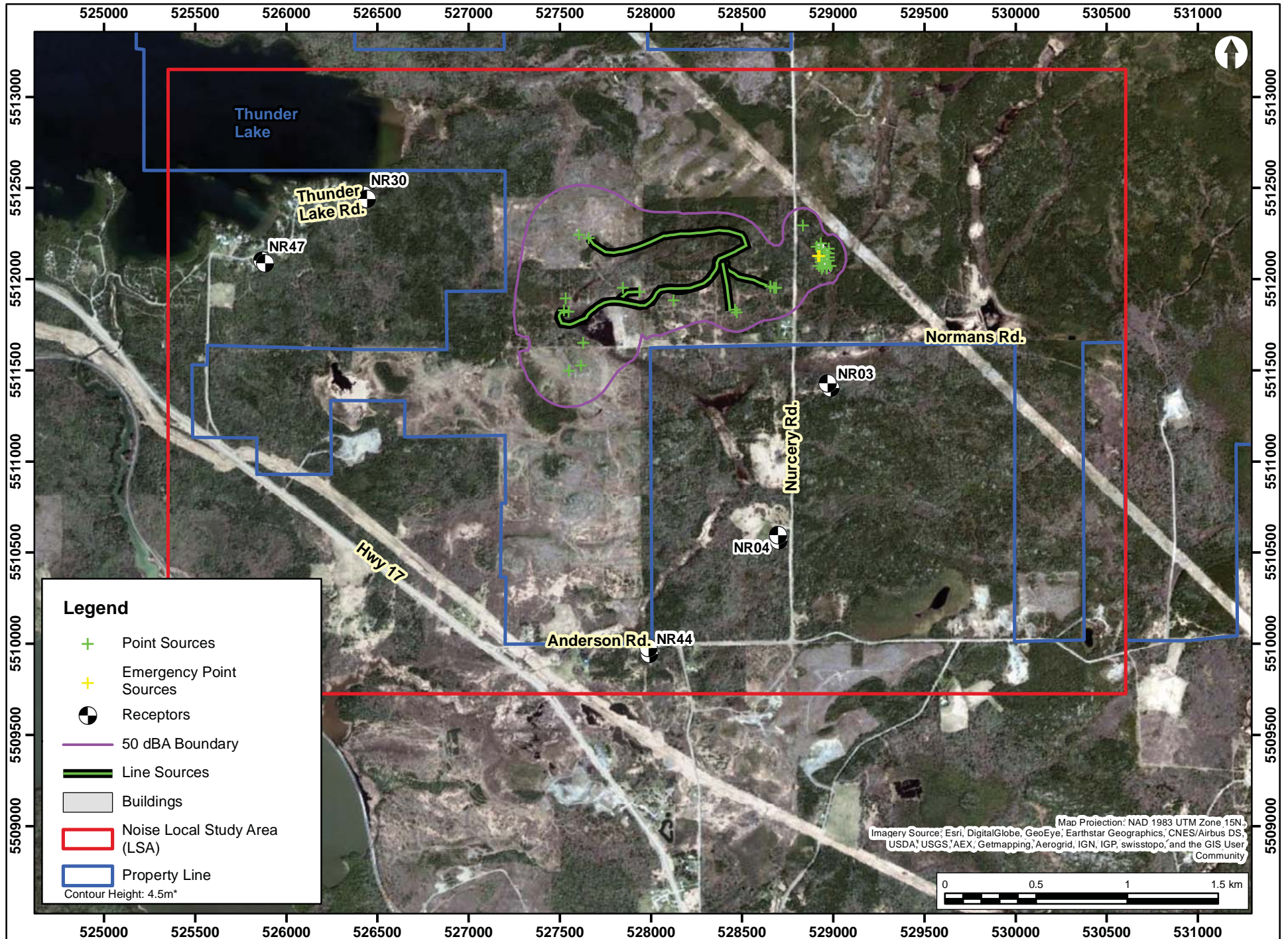
-  Receptors
-  50 dBA Boundary
-  Area Source
-  Noise Local Study Area (LSA)
-  Property Line

Contour Height 4.5m\*

Map Projection: NAD 1983 UTM Zone 15N,  
 Imagery Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,  
 CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP,  
 swisstopo, and the GIS User Community





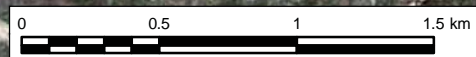


**Legend**

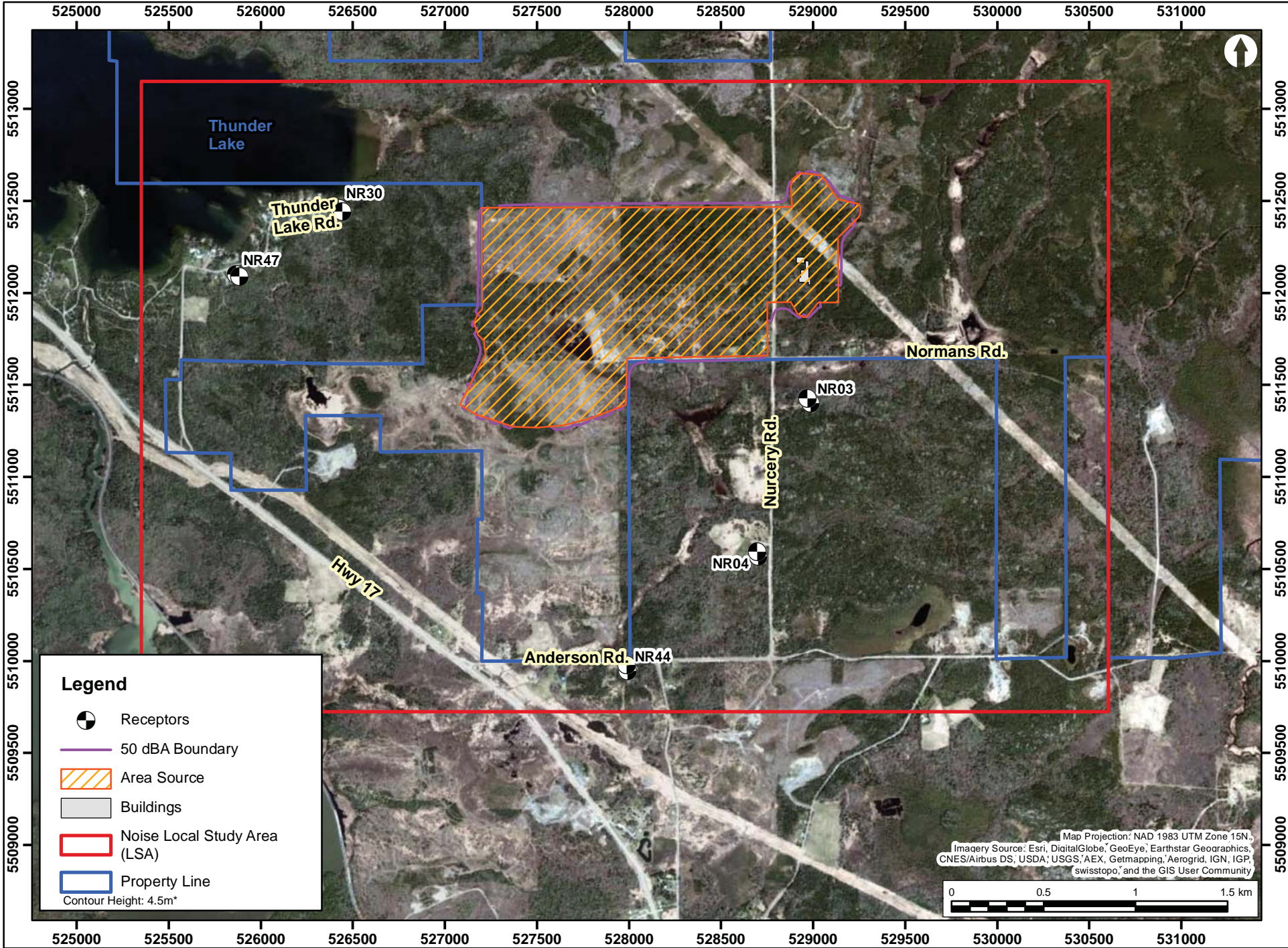
- + Point Sources
- + Emergency Point Sources
- Receptors
- 50 dBA Boundary
- Line Sources
- Buildings
- ▭ Noise Local Study Area (LSA)
- ▭ Property Line

Contour Height: 4.5m\*







Map Projection: NAD 1983 UTM Zone 15N  
 Imagery Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS,  
 USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User  
 Community







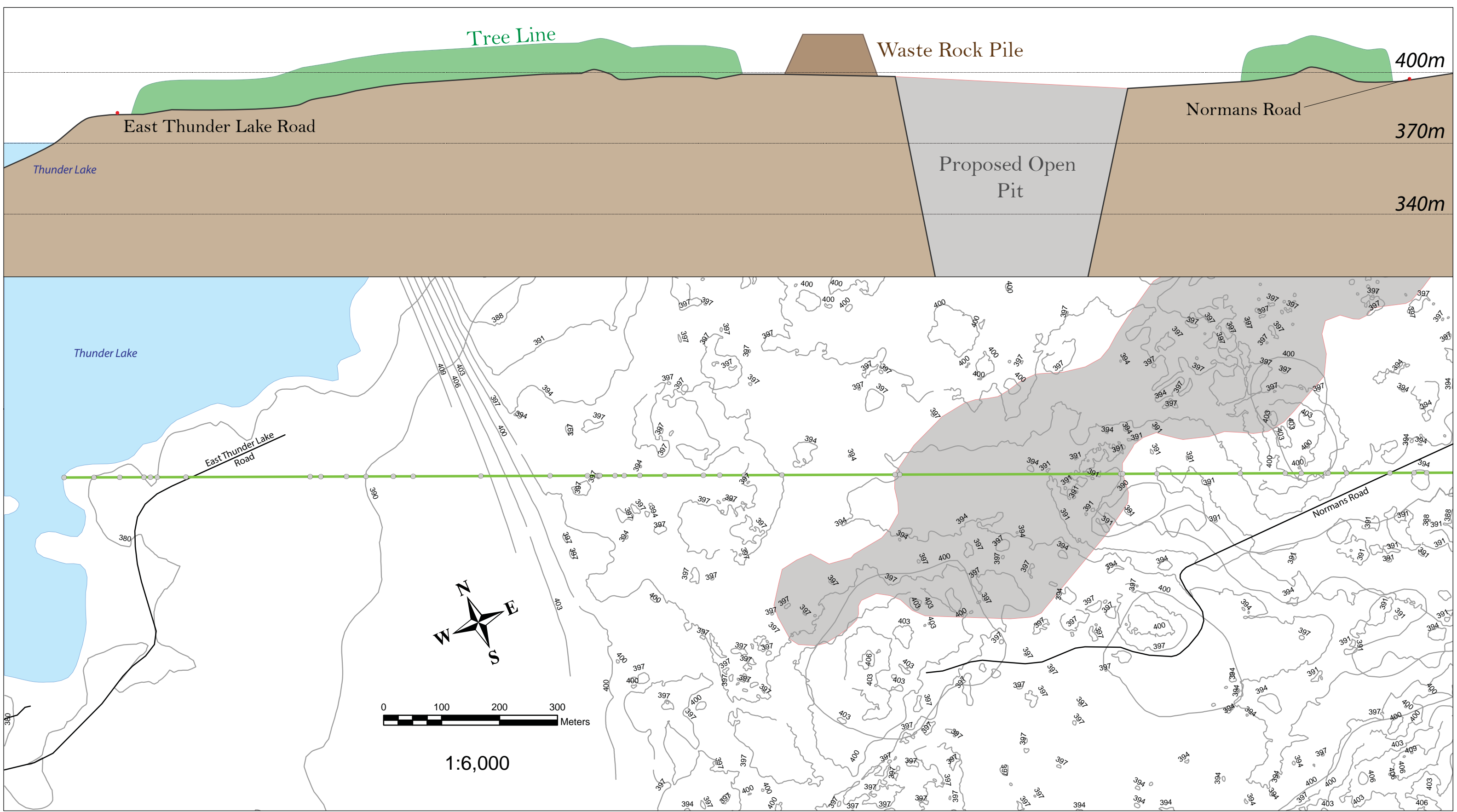
**Legend**

-  Receptors
  -  50 dBA Boundary
  -  Area Source
  -  Buildings
  -  Noise Local Study Area (LSA)
  -  Property Line
- Contour Height: 4.5m\*

Map Projection: NAD 1983 UTM Zone 15N,  
 Imagery Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,  
 CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP,  
 swisstopo, and the GIS User Community







**Elevation Cross Section from South of Hoffstrom's Bay to Proposed Western Pit**  
**TMI\_229-HE(1)-36\_Figure\_1**

GOLIATH GOLD PROJECT, TREASURY METALS

**LEGEND**

- Elevation Point
- Contour Line
- Elevation Cross Section
- Proposed Open Pit
- Road
- Waterbody

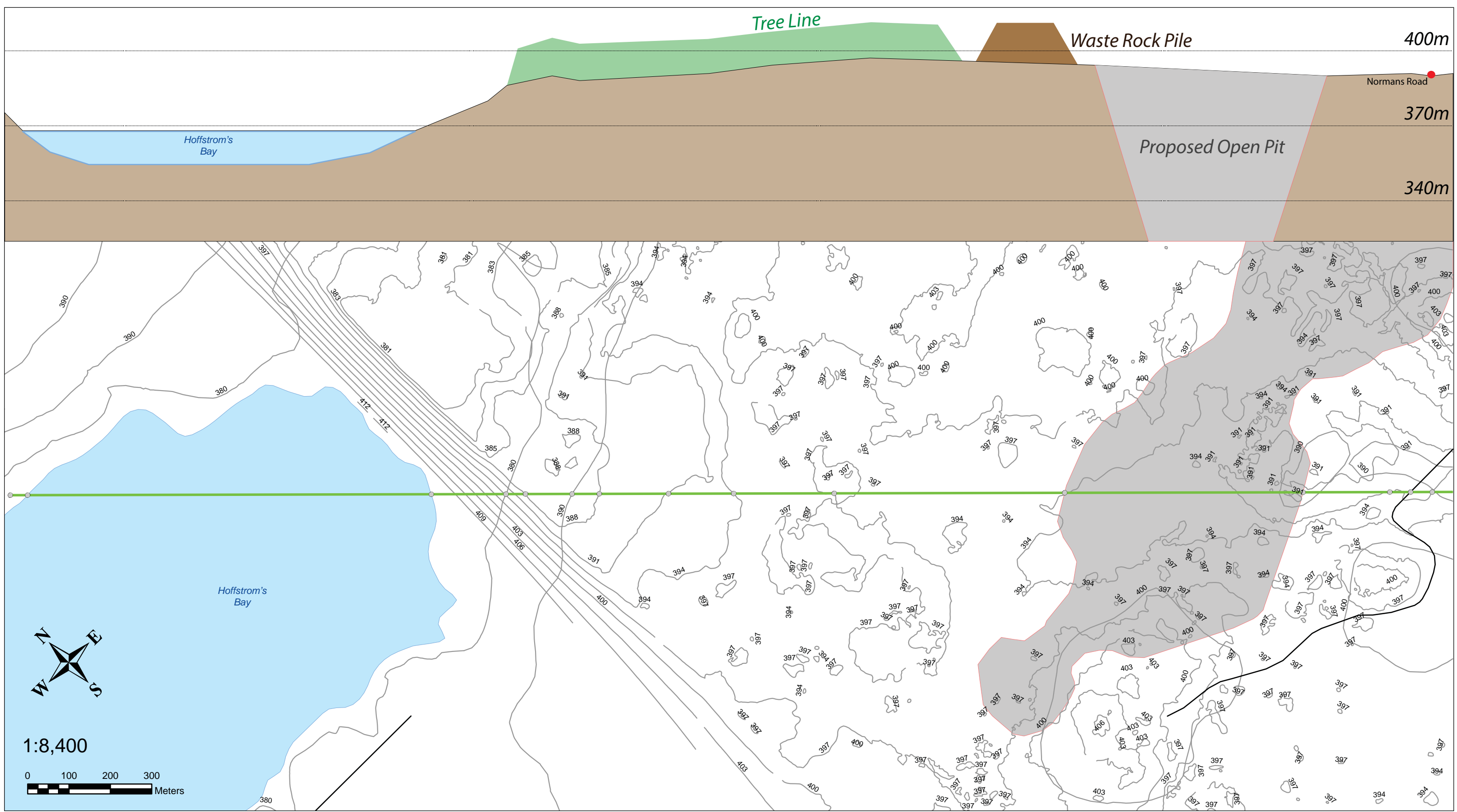
NAD83 UTM ZONE 15N  
 DRAWN BY: AT  
 PROJECT OFFICE  
 TREASURY METALS INC.

NOT FOR NAVIGATIONAL PURPOSES



**TREASURY METALS**  
 INCORPORATED





**Elevation Cross Section from North of Hoffstrom's Bay to Proposed Western Pit**  
**TMI\_229-HE(1)-36\_Figure\_2**  
 GOLIATH GOLD PROJECT, TREASURY METALS

**LEGEND**

- Elevation Point
- Contour Line
- Elevation Cross Section
- Proposed Open Pit
- Road
- Waterbody

NAD83 UTM ZONE 15N  
 DRAWN BY: AT  
 PROJECT OFFICE  
 TREASURY METALS INC.

NOT FOR NAVIGATIONAL PURPOSES



**TREASURY METALS**  
 INCORPORATED